

L. M., B. D. & G. S. ARMSTRONG.

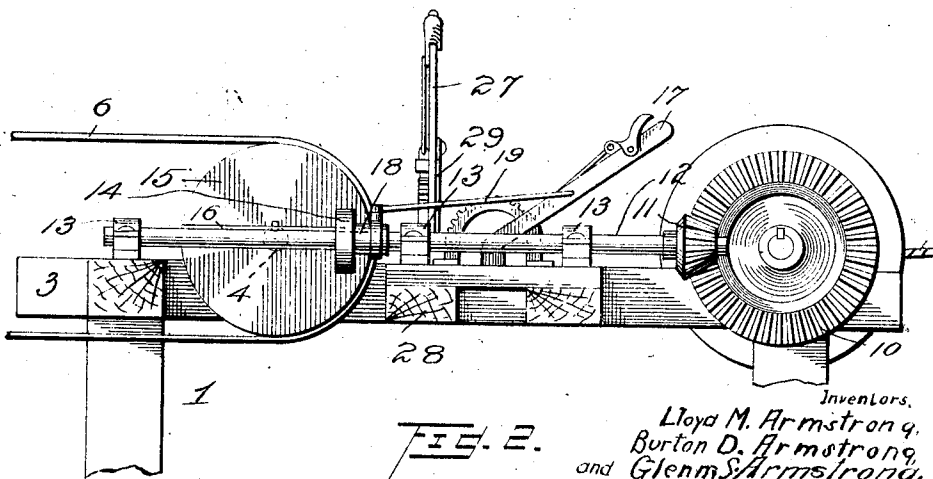
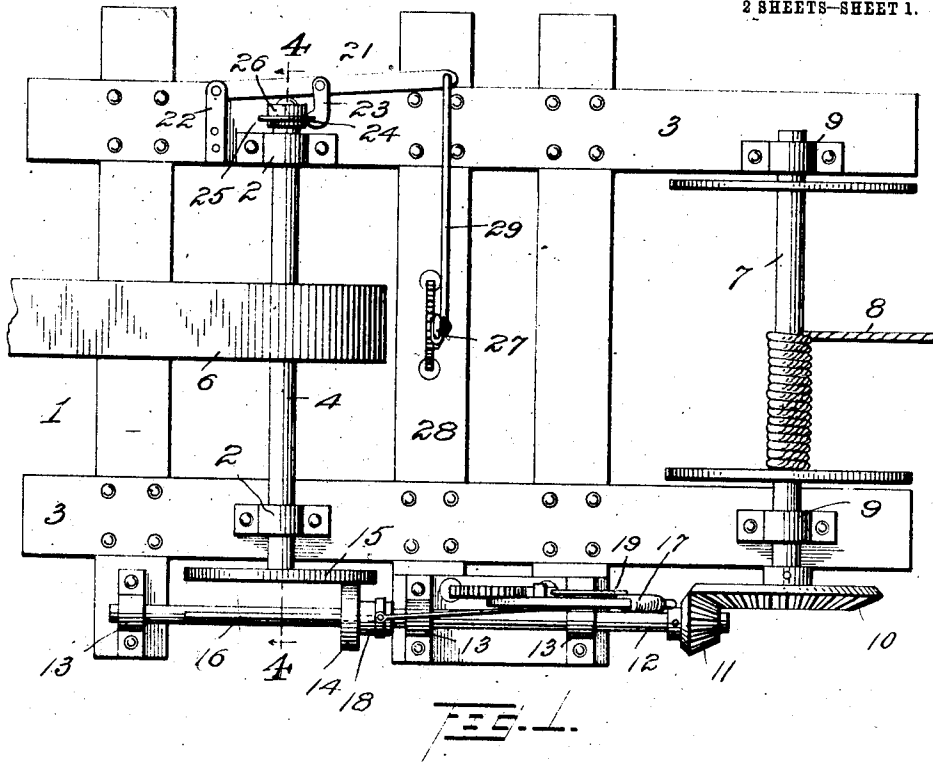
GEARING.

APPLICATION FILED MAY 2, 1911.

1,058,704.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.



Inventors,
Lloyd M. Armstrong,
Barton D. Armstrong,
and Glenn S. Armstrong.

Witnesses

E. C. Duffy
John G. Fox

John P. Duffie
His Attorney

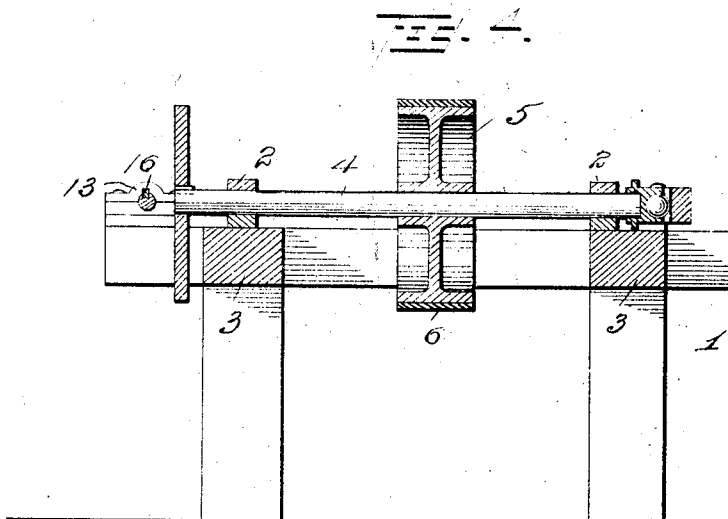
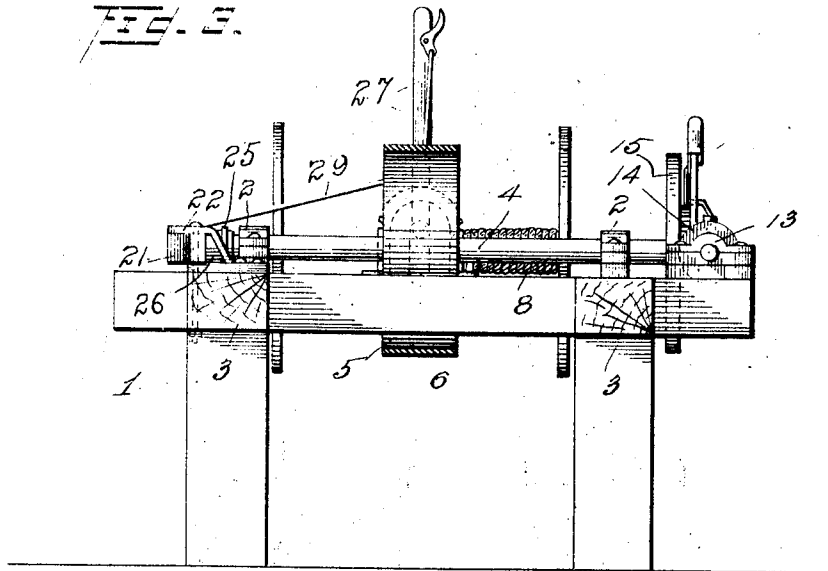
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Witnesses

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UNITED STATES PATENT OFFICE.

LLOYD M. ARMSTRONG, BURTON D. ARMSTRONG, AND GLENN S. ARMSTRONG, OF
BAYFIELD, COLORADO.

GEARING.

1,058,704.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed May 2, 1911. Serial No. 624,668.

To all whom it may concern:

Be it known that we, LLOYD M. ARMSTRONG, BURTON D. ARMSTRONG, and GLENN S. ARMSTRONG, citizens of the United States, residing at Bayfield, in the county of La Plata and State of Colorado, have invented certain new and useful Improvements in Gearing, of which the following is a specification.

This invention relates to improvements in hay hoisting machines.

The primary object of this invention is to provide a machine of this character, which may be driven by a gasoline engine or other source of power, and may be used for hoisting hay, or the like in place of a "derrick horse."

A further object of this invention is to provide in a device of this kind, means for reversing the winding drum for the hoisting cable, and means under the control of the operator for throwing the drive shaft to and out of gear.

With the foregoing and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts illustrated in the drawings, and more particularly pointed out in the appended claim.

In the accompanying drawings:—Figure 1 is a plan view of a hoisting machine embodying our improvements. Fig. 2 is a side elevation of Fig. 1, and Fig. 3 is an end view with the belt pulley shown in section, and Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 1.

Referring to the drawings for a more particular description of the invention, the device comprises a suitable frame 1 of any desired construction. Revolvably mounted at opposite ends in the bearings 2 arranged on the side members 3 of the frame, is the drive-shaft 4 provided with the belt wheel 5, by means of which power is communicated to the shaft 4 by the belt 6 of a gasoline engine or other source of power.

The device further comprises the winding drum 7 for the hoisting cable 8, the shaft of the winding drum being mounted in the bearings 9 superimposed on the side pieces 3 of the supporting structure. One end of the shaft of the winding drum is provided with the bevel gear 10, which intermeshes with the bevel pinion 11 arranged at the ad-

jacent end of the longitudinal shaft 12 mounted in the bearings 13. The shaft 12 is driven by the drive shaft 4, by means of the friction wheel 14 and the friction disk 15 at one end of the drive shaft. The friction wheel 14 is slidably mounted on the shaft 12, which is provided with the key or spline 16, situated directly opposite the friction disk 15, and of a length corresponding to the diameter of said disk. By this means, the friction wheel 14 may be moved nearer to the center or nearer to the periphery of the disk to decrease or increase the speed of the shaft 12 and in this way control the speed of the winding drum 7. The friction wheel 14 is slid back and forth by the pivoted hand lever 17, which is connected with the collar 18 of the wheel 14, by the connecting rod 19. The hand lever may be held at any desired adjustment by the pawl and ratchet mechanism shown. It will be observed that the friction wheel 14 may be moved from one side of the center of the friction disk 15 to the opposite side, which will reverse the direction of rotation of the shaft 12, and likewise, reverse the action of the winding drum 7, without reversing the engine. The drive shaft 4 may be shifted laterally to throw the friction disk 15 out of engagement with the friction wheel 14 when it is desired that the machine be thrown out of gear, by the following means:—A shifting bar 21 is pivoted at one end in the bearing 22 and is provided intermediate its ends with the catch or keeper 23 provided at its inner end with a recessed portion 24, which receives the flange 25 of the collar 26. A shifting lever 27 is pivoted on the cross member 28 of the frame, and is connected with the free end of the bar 21 by the connecting rod 29. The lever 27 is held in adjusted position by the pawl and ratchet mechanism.

While the device is primarily intended for the purpose of hoisting hay, it may be used for any other purpose to which it may be applied.

Having described our invention, what we claim as new, is:—

A hoisting machine of the class described comprising a supporting frame, a drive shaft mounted transversely of the frame, variable transmission gearing, connected with the drive shaft, and means under the con-

trol of the operator for shifting the drive shaft axially to throw the gearing out of operative relation, said means comprising a pivoted shifting bar, a flanged collar at the adjacent end of the drive shaft, a catch or
5 keeper pivoted at one end to the shifting bar and having a recessed free end to engage the flange of the collar, a pivoted hand lever connected with the free end of the
10 shifting bar and a pawl and ratchet mecha-

nism for holding the hand lever in adjusted position.

In testimony whereof we affix our signatures in presence of two witnesses.

LLOYD M. ARMSTRONG.
BURTON D. ARMSTRONG.
GLENN S. ARMSTRONG.

Witnesses:

EDWARD C. GILBERT,
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